

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/056551 A1**

(51) International Patent Classification<sup>7</sup>: **B29C 47/10**

(21) International Application Number:  
PCT/EP2003/014501

(22) International Filing Date:  
18 December 2003 (18.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
MI2002A002736  
20 December 2002 (20.12.2002) IT

CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant and

(72) Inventor: DE MARIA, Massimo [IT/IT]; Via Monterosa, 22/B, I-21040 Oggiona S. Stefano (IT).

(74) Agent: MODIANO, Guido; Modiano & Associati, Via Meravigli, 16, I-20123 Milano (IT).

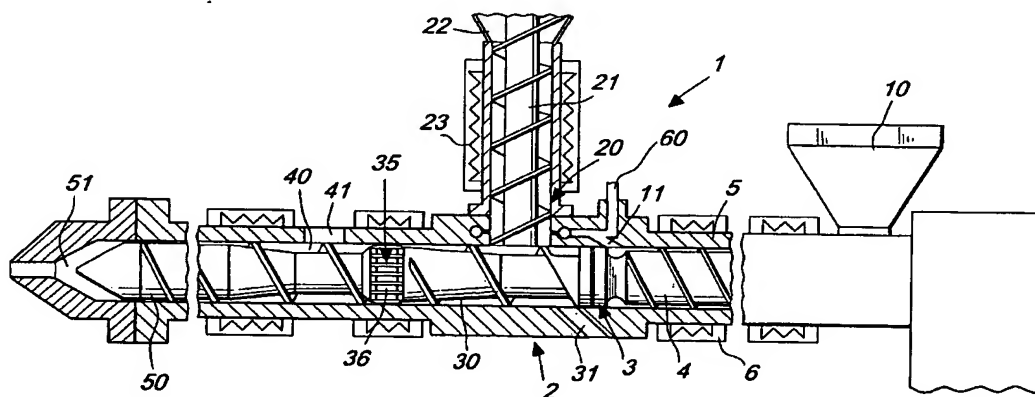
(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR PRODUCING COMPOSITE MATERIALS SUCH AS THERMOPLASTIC RESINS WITH MINERAL AND/OR VEGETABLE FILLERS



(57) Abstract: A method for producing composite materials, such as thermoplastic resins with mineral and/or vegetable fillers, consisting in feeding a mineral and/or vegetable filler, preheating the filler, feeding a melted thermoplastic resin onto the filler, introducing the mixture of the filler and the thermoplastic resin in an extruder, subjecting the mixture to high compression, producing a high partial vacuum, and compressing the mixture in an extrusion head, out of which the material to be subjected to subsequent treatments flows.